DEFENSE INFORMATION SYSTEMS AGENCY
P. O. BOX 4502
ARLINGTON, VIRGINIA 22204-4502

IN REPLY
REFER TO: Joint Interoperability Test Command (JTE) 13 Jan 09

MEMORANDUM FOR DISTRIBUTION

SUBJECT: Special Interoperability Test Certification of the Enera RapidReach Pro Release 5.2.4

References: (a) DOD Directive 4630.5, "Interoperability and Supportability of Information Technology (IT) and National Security Systems (NSS)," 5 May 2004
(b) CJCSI 6212.01D, "Interoperability and Supportability of Information Technology and National Security Systems," 8 March 2006
(c) and (d), see enclosure 1

1. References (a) and (b) establish the Defense Information Systems Agency, Joint Interoperability Test Command (JITC), as the responsible organization for interoperability test certification.

2. The Enera RapidReach Pro Release 5.2.4 is hereinafter referred to as the System Under Test (SUT). The SUT meets the interface and functional requirements and is certified for joint use within the Defense Switched Network (DSN) as an Automated Receiving Device (ARD) with the following interfaces: 2-Wire analog, Digital Transmission Link Level 1 (T1) Integrated Services Digital Network (ISDN) Primary Rate Interface National ISDN 2, and T1 Channel Associated Signaling with Dual Tone Multi-Frequency signaling. JITC analysis determined a minor risk in certifying the SUT with all digital switching systems listed on the DSN Approved Product List certified with the same interfaces offered by the SUT. The SUT met interface and functional requirements for an ARD set forth in appendix 7 of reference (c). Testing was conducted using test procedures derived from reference (d). No other configurations, features, or functions, except those cited within this report, are certified by the JITC, or authorized by the Program Management Office for use within the DSN. This certification expires upon changes that affect interoperability, but no later than three years from the date of this memorandum.

3. This certification is based on interoperability testing and review of the vendor's Letters of Compliance (LoC). Interoperability testing was conducted by JITC at the Global Information Grid Network Test Facility, Fort Huachuca, Arizona, from 1 through 9 May 2008. Review of vendor's LoC was completed on 2 May 2008. The Certification Testing Summary (enclosure 2) documents the test results and describes the test configuration.

4. The Functional Requirements used to evaluate the interoperability of the SUT and the interoperability status is indicated in table 1.

Table 1. SUT Functional Requirements and Interoperability Status

Interfaces	Critical	Certified	Functional Requirements	Met	UCR Paragraph
T1 ISDN PRI NI2	No[1]	Yes	FCC Part 15/Part 68 and ACTA (R)	Met	A7.5
			PCM-24 (C)	Met	A7.5.5, 7.1
T1 CAS DTMF	No[1]	Yes	FCC Part 15/Part 68 and ACTA (R)	Met	A7.5
			DTMF Outpulsing in accordance with GR-506-CORE (C)	Met	A7.5, 5.4.2
			PCM-24 (C)	Met	A7.5.5, 7.1
2-Wire Analog (GR-506-CORE)	No[1]	Yes	FCC Part 15/Part 68 and ACTA (R)	Met	A7.5
			In accordance with TIA/EIA-470-B (R)	Met	A7.5
			DTMF Outpulsing in accordance with GR-506-CORE (C)	Met	A7.5, 5.4.2
Security	Yes	See note 2.	Security (R)	See note 2.	A7.6

LEGEND:

A	- Appendix	LSSGR	- Local Access and Transport Area (LATA) Switching Systems Generic Requirements
ACTA	- Administrative Council of Terminal Attachments	Mbps	- Megabits per second
C	- Conditional	NI2	- National ISDN Standard 2
CAS	- Channel Associated Signaling	PCM-24	- Pulse Code Modulation - 24 Channels
DISA	- Defense Information Systems Agency	PRI	- Primary Rate Interface
DTMF	- Dual Tone Multi-Frequency	R	- Required
EIA	- Electronic Industries Alliance	SUT	- System Under Test
FCC	- Federal Communications Commission	T1	- Digital Transmission Link Level 1 (1.544 Mbps)
GR	- Generic Requirement	TIA	- Telecommunications Industry Association
GR-506-CORE	- LSSGR: Signaling for Analog Interfaces	TIA/EIA-470-B	- Performance and Compatibility Requirements for Telephone Sets with Loop Signaling
ISDN	- Integrated Services Digital Network	UCR	- Unified Capabilities Requirements

NOTES:
1 The Automated Receiving Device requirements can be met via one of the following interfaces: 2-Wire Analog, 4-Wire Digital, or PCM-24.
2 Security testing is accomplished via DISA-led Information Assurance test teams and published in a separate report.

5. JITC distributes interoperability information via the JITC Electronic Report Distribution (ERD) system, which uses Unclassified-But-Sensitive Internet Protocol Router Network (NIPRNet) e-mail. More comprehensive interoperability status information is available via the JITC System Tracking Program (STP). The STP is accessible by .mil/.gov users on the NIPRNet at https://stp.fhu.disa.mil. Test reports, lessons learned, and related testing documents and references are on the JITC Joint Interoperability Tool (JIT) at http://jit.fhu.disa.mil (NIPRNet), or http://199.208.204.125 (SIPRNet). Information related to DSN testing is on the Telecom Switched Services Interoperability (TSSI) website at http://jitc.fhu.disa.mil/tssi.

6. The JITC point of contact is Mr. Michael Napier, DSN 879-6787, commercial (520) 538-6787, FAX DSN 879-4347, or e-mail to michael.napier@disa.mil. The JITC's mailing address is P.O. Box 12798, Fort Huachuca, AZ 85670-2798. The tracking number for the SUT is 0724701.

FOR THE COMMANDER:

2 Enclosures a/s

for RICHARD A. MEADOR
Chief
Battlespace Communications Portfolio

Distribution:
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Defense Information Systems Agency, Net-Centricity Requirements and Assessment Branch, ATTN: GE333, Room 244, P.O. Box 4502, Falls Church, VA 22204-4502
Office of Chief of Naval Operations (N71CC2), CNO N6/N7, 2000 Navy Pentagon, Washington, DC 20350
Headquarters U.S. Air Force, AF/XICF, 1800 Pentagon, Washington, DC 20330-1800
Department of the Army, Office of the Secretary of the Army, CIO/G6, ATTN: SAIS-IOQ, 107 Army Pentagon, Washington, DC 20310-0107
U.S. Marine Corps (C4ISR), MARCORSYSCOM, 2200 Lester St., Quantico, VA 22134-5010
DOT&E, Net-Centric Systems and Naval Warfare, 1700 Defense Pentagon, Washington, DC 20301-1700
U.S. Coast Guard, CG-64, 2100 2nd St. SW, Washington, DC 20593
Defense Intelligence Agency, 2000 MacDill Blvd., Bldg 6000, Bolling AFB, Washington, DC 20340-3342
National Security Agency, ATTN: DT, Suite 6496, 9800 Savage Road, Fort Meade, MD 20755-6496
Director, Defense Information Systems Agency, ATTN: GS235, Room 5W24-8A, P.O. Box 4502, Falls Church, VA 22204-4502
Office of Assistant Secretary of Defense (NII)/DoD CIO, Crystal Mall 3, 7th Floor, Suite 7000, 1851 S. Bell St., Arlington, VA 22202
Office of Under Secretary of Defense, AT&L, Room 3E144, 3070 Defense Pentagon, Washington, DC 20301
U.S. Joint Forces Command, J68, Net-Centric Integration, Communications, and Capabilities Division, 1562 Mitscher Ave., Norfolk, VA 23551-2488
Defense Information Systems Agency (DISA), ATTN: GS23 (Mr. McLaughlin), Room 5W23, 5275 Leesburg Pike (RTE 7), Falls Church, VA 22041

ADDITIONAL REFERENCES

(c) Defense Information Systems Agency, "Department of Defense Networks Unified Capabilities Requirements," 21 December 2007
(d) Joint Interoperability Test Command, "Defense Switched Network Generic Switch Test Plan (GSTP), Change 2," 2 October 2006

CERTIFICATION TESTING SUMMARY

1. SYSTEM TITLE. Enera RapidReach Pro Release 5.2.4, hereinafter referred to as the system under test (SUT).

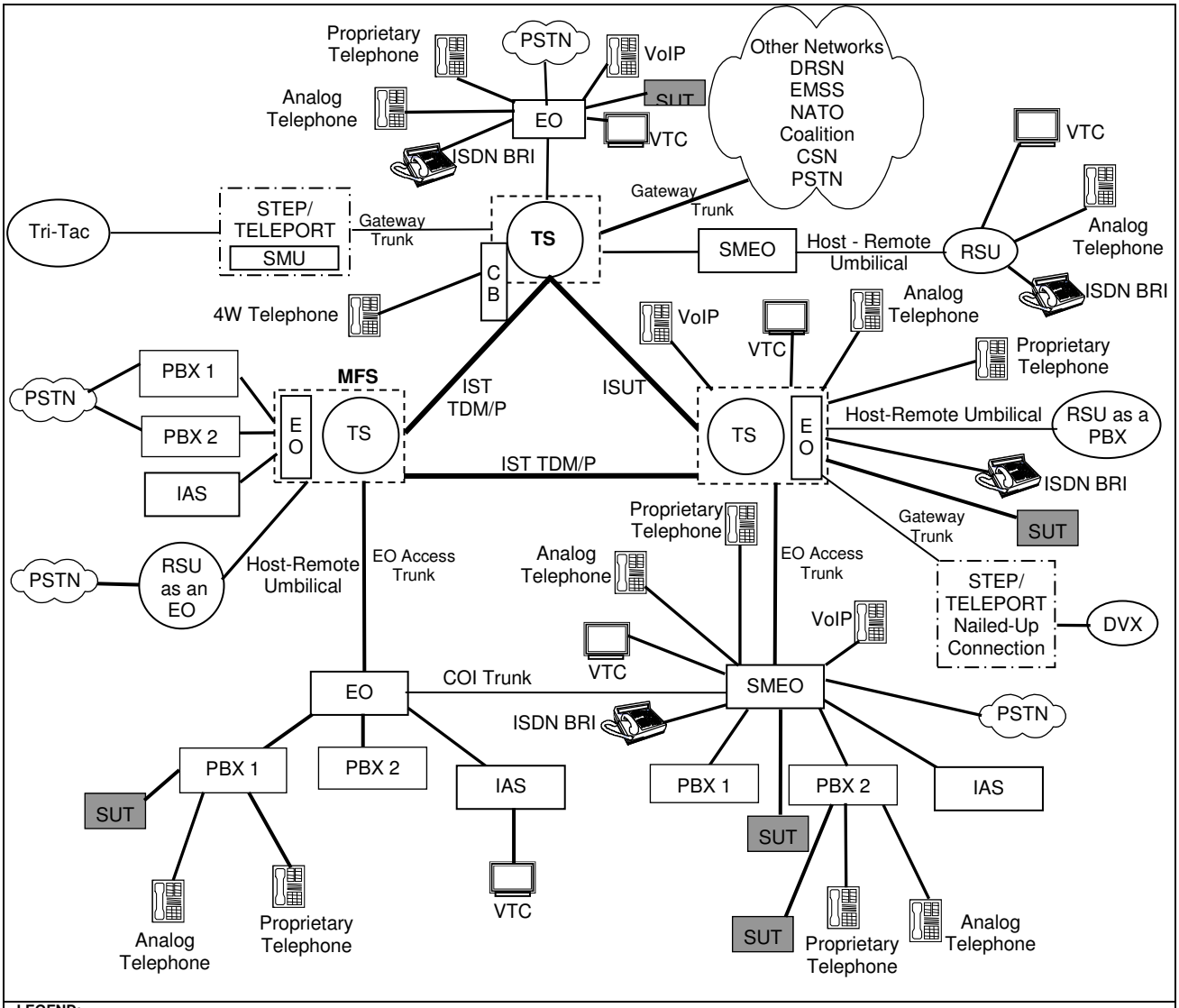
2. PROPONENT. United States Army, Fort Mcpherson Directorate of Information Management (DOIM).

3. PROGRAM MANAGER. Mr. Michael Roberts, DOIM, Building 162 Lower Level, Fort Mcpherson, Georgia 30330-1078, e-mail: robertsm@forscom.army.mil.

4. TESTER. Joint Interoperability Test Command (JITC), Fort Huachuca, Arizona.

5. SYSTEM UNDER TEST DESCRIPTION. The SUT is a modular emergency notification system that transmits information in critical or emergency situations. The SUT automatically handles recall lists and call trees, and records responses of personnel contacted in real time. The SUT notifies personnel through the telephone network and Local Area Network (LAN), using a variety of contact devices including ordinary phones, mobile phones, wireless devices, personal digital assistants, Fax and email. The SUT provides a single screen presentation of all call out activities including status modes, start and stop times, contact numbers and answers. The call outs may be predefined and activated quickly. The SUT may be installed on a single, standalone computer (RapidReach Standard) or in a Client/Server environment (RapidReach Professional). The Server operating system is Windows 2003 Server. The system may be deployed in a Common Access Card (CAC)-enabled network supporting Public Key Infrastructure (PKI), with Internet Protocol Security (IPSEC) to protect data in transit. Configurations may be up to 480 lines on a single server and multiple servers either in a Master/Slave configuration for failover and redundancy, or with two or more Master Servers running in parallel. The SUT interfaces to the Defense Switched Network (DSN) via analog and/or Pulse Code Modulation (PCM)-24 interfaces.

6. OPERATIONAL ARCHITECTURE. The Unified Capabilities Requirements (UCR) DSN architecture in figure 2-1 depicts the relationship of the SUT to the DSN switches.



LEGEND:

4W	- 4-Wire
BRI	- Basic Rate Interface
CB	- Channel Bank
COI	- Community of Interest
CSN	- Canadian Switch Network
DRSN	- Defense Red Switch Network
DSN	- Defense Switched Network
DVX	- Deployable Voice Exchange
EMSS	- Enhanced Mobile Satellite System
EO	- End Office
IAS	- Integrated Access Switch
ISDN	- Integrated Services Digital Network
IST	- Interswitch Trunk
MFS	- Multifunction Switch
NATO	- North Atlantic Treaty Organization
PBX	- Private Branch Exchange
PBX 1	- Private Branch Exchange 1
PBX 2	- Private Branch Exchange 2
PSTN	- Public Switched Telephone Network
RSU	- Remote Switching Unit
SMEO	- Small End Office
SMU	- Switched Multiplex Unit
STEP	- Standardized Tactical Entry Point
SUT	- System Under Test
TDM/P	- Time Division Multiplex/Packetized
Tri-Tac	- Tri-Service Tactical Communications Program
TS	- Tandem Switch
VoIP	- Voice over Internet Protocol
VTC	- Video Teleconferencing

Figure 2-1. DSN Architecture

7. REQUIRED SYSTEM INTERFACES. Requirements specific to the SUT and interoperability results are listed in table 2-1. These requirements are derived from the

UCR Interface and Functional Requirements (FRs) and verified through JITC testing and review of vendor Letters of Compliance (LoC).

Table 2-1. SUT Functional Requirements and Interoperability Status

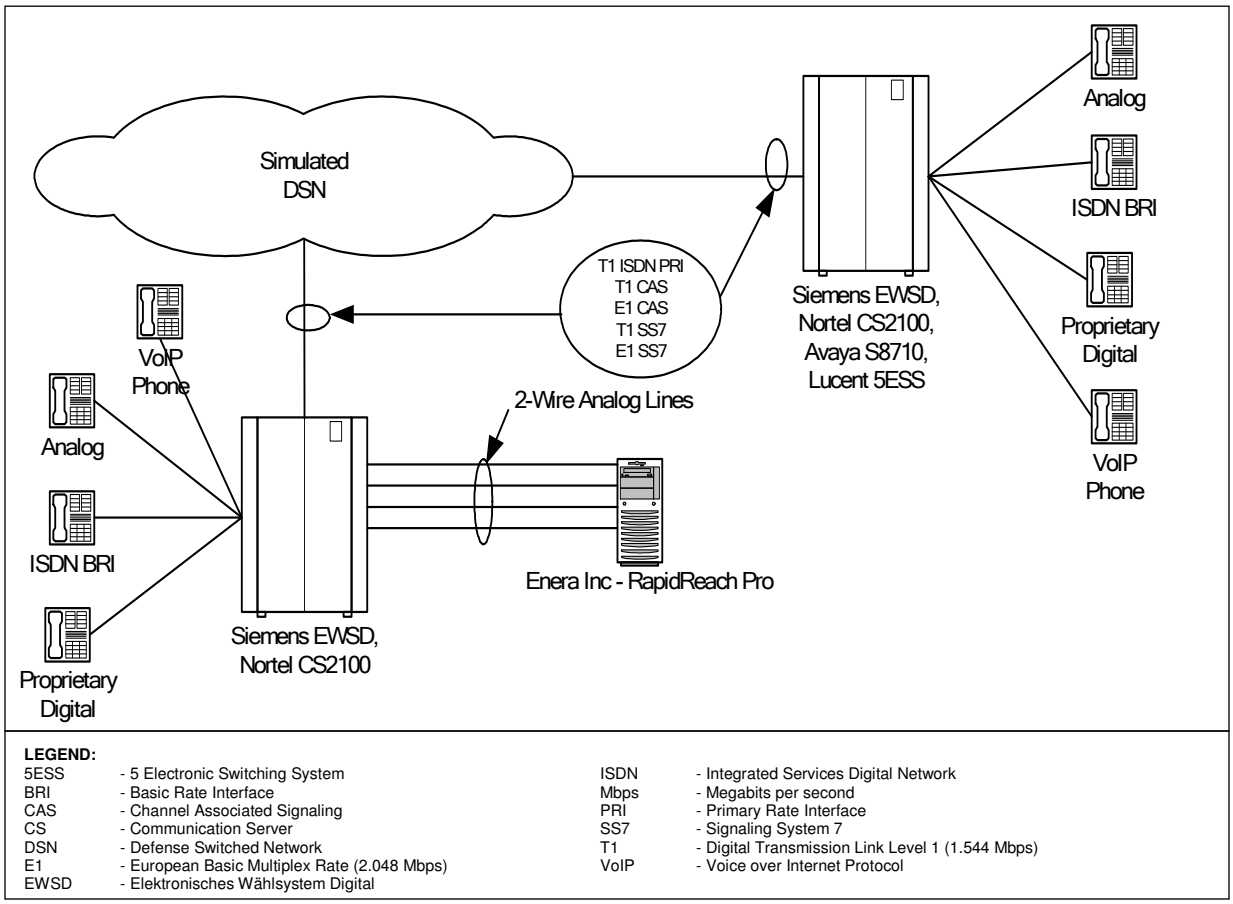
Interfaces	Critical	Certified	Functional Requirements	Met	UCR Paragraph
T1 ISDN PRI NI2	No[1]	Yes	FCC Part 15/Part 68 and ACTA (R)	Met	A7.5
			PCM-24 (C)	Met	A7.5.5, 7.1
T1 CAS DTMF	No[1]	Yes	FCC Part 15/Part 68 and ACTA (R)	Met	A7.5
			DTMF Outpulsing in accordance with GR-506-CORE (C)	Met	A7.5, 5.4.2
			PCM-24 (C)	Met	A7.5.5, 7.1
2-Wire Analog (GR-506-CORE)	No[1]	Yes	FCC Part 15/Part 68 and ACTA (R)	Met	A7.5
			In accordance with TIA/EIA-470-B (R)	Met	A7.5
			DTMF Outpulsing in accordance with GR-506-CORE (C)	Met	A7.5, 5.4.2
Security	Yes	See note 2.	Security (R)	See note 2.	A7.6

LEGEND:

A	- Appendix	Mbps	- Megabits per second
ACTA	- Administrative Council of Terminal Attachments	NI2	- National ISDN Standard 2
C	- Conditional	PCM-24	- Pulse Code Modulation - 24 Channels
CAS	- Channel Associated Signaling	PRI	- Primary Rate Interface
DISA	- Defense Information Systems Agency	R	- Required
DTMF	- Dual Tone Multi-Frequency	SUT	- System Under Test
EIA	- Electronic Industries Alliance	T1	- Digital Transmission Link Level 1 (1.544 Mbps)
FCC	- Federal Communications Commission	TIA	- Telecommunications Industry Association
GR	- Generic Requirement	TIA/EIA-470-B	- Performance and Compatibility Requirements for Telephone Sets with Loop Signaling
GR-506-CORE	- LSSGR: Signaling for Analog Interfaces	UCR	- Unified Capabilities Requirements
ISDN	- Integrated Services Digital Network		
LSSGR	- Local Access and Transport Area (LATA) Switching Systems Generic Requirements		

NOTES:
1 The Automated Receiving Device requirements can be met via one of the following interfaces: 2-Wire Analog, 4-Wire Digital, or PCM-24.
2 Security testing is accomplished via DISA-led Information Assurance test teams and published in a separate report.

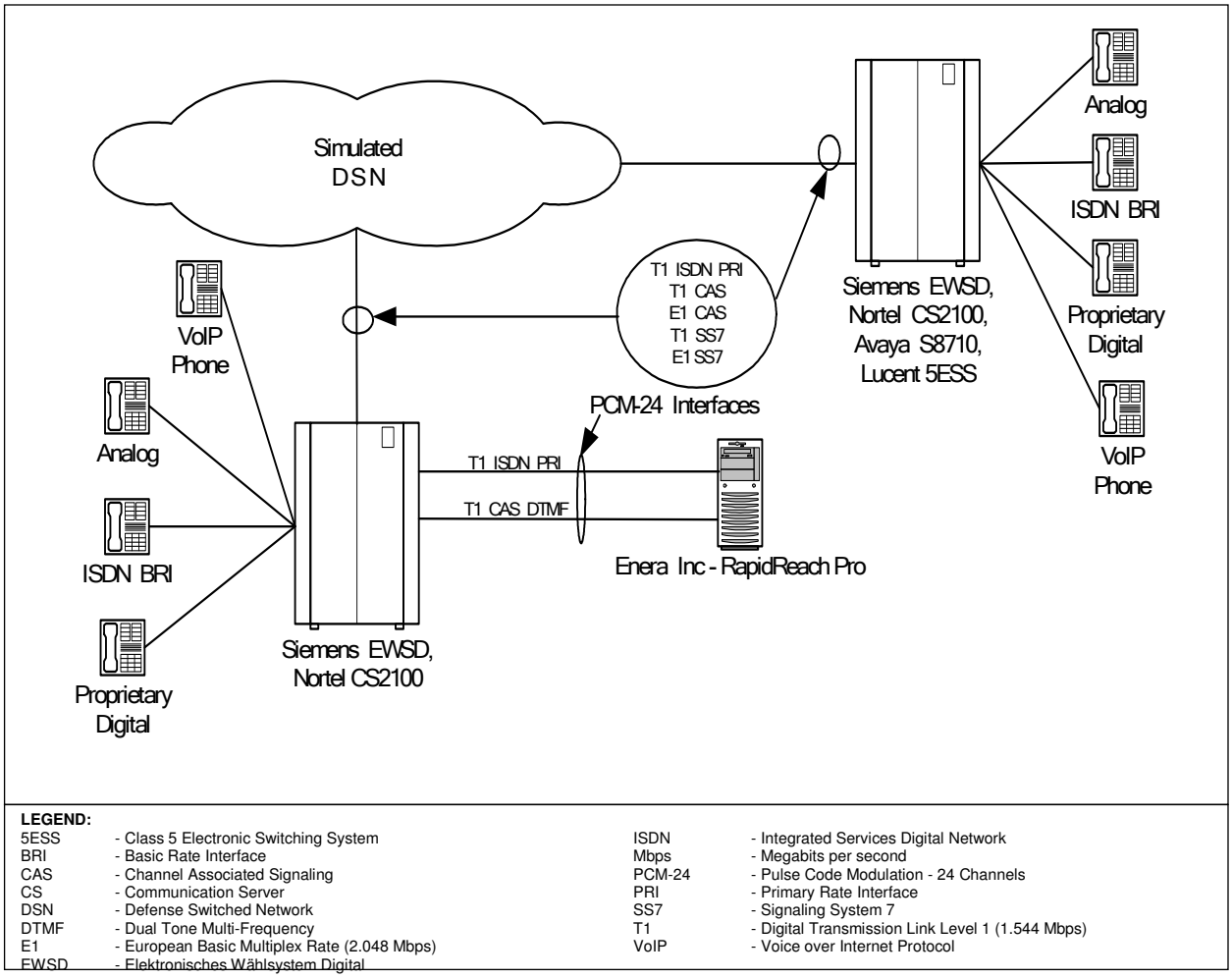
8. TEST NETWORK DESCRIPTION. The SUT was tested at JITC's Global Information Grid Network Test Facility in a manner and configuration similar to that of the DSN operational environment. The test configuration depicted in figure 2-2 was used to test the system's required analog functions and features. Figure 2-3 depicts the configuration used to test the system's PCM-24 interfaces.



LEGEND:

5ESS	- 5 Electronic Switching System	ISDN	- Integrated Services Digital Network
BRI	- Basic Rate Interface	Mbps	- Megabits per second
CAS	- Channel Associated Signaling	PRI	- Primary Rate Interface
CS	- Communication Server	SS7	- Signaling System 7
DSN	- Defense Switched Network	T1	- Digital Transmission Link Level 1 (1.544 Mbps)
E1	- European Basic Multiplex Rate (2.048 Mbps)	VoIP	- Voice over Internet Protocol
EWSD	- Elektronisches Wählsystem Digital		

Figure 2-2. SUT Analog Test Configuration



LEGEND:

5ESS	- Class 5 Electronic Switching System	ISDN	- Integrated Services Digital Network
BRI	- Basic Rate Interface	Mbps	- Megabits per second
CAS	- Channel Associated Signaling	PCM-24	- Pulse Code Modulation - 24 Channels
CS	- Communication Server	PRI	- Primary Rate Interface
DSN	- Defense Switched Network	SS7	- Signaling System 7
DTMF	- Dual Tone Multi-Frequency	T1	- Digital Transmission Link Level 1 (1.544 Mbps)
E1	- European Basic Multiplex Rate (2.048 Mbps)	VoIP	- Voice over Internet Protocol
EWSD	- Elektronisches Wählsystem Digital		

Figure 2-3. SUT PCM-24 Test Configuration

9. SYSTEM CONFIGURATIONS. Table 2-2 provides the system configurations, hardware, and software components tested with the SUT. The SUT was tested in an operationally realistic environment to determine interoperability with a complement of DSN switches noted in table 2-2. Table 2-2 lists the DSN switches, which depict the tested configuration, and is not intended to identify the only switches that are certified with the SUT. The SUT is also certified with all digital switching systems listed on the DSN Approved Product List (APL) certified with the same interfaces offered by the SUT.

Table 2-2. Tested System Configurations

<table>
<tr><th colspan="2">System Name</th><th colspan="3">Hardware/Software Release</th></tr>
<tr><td colspan="2">Siemens EWSD</td><td colspan="3">19d with Patch Set 46</td></tr>
<tr><td colspan="2">Nortel CS2100</td><td colspan="3">Succession Enterprise (SE)09.1</td></tr>
<tr><td colspan="2">Lucent 5ESS</td><td colspan="3">5E16.2 Broadcast Warning Message (BWM) 07-0003</td></tr>
<tr><td colspan="2">Avaya S8710</td><td colspan="3">Communication Manager (CM) 4.0 (R014x.00.2.731.7: Super Patch 14419)</td></tr>
<tr><td rowspan="4">SUT</td><td rowspan="4">Enera Inc. – RapidReach Pro</td><td>Application Software Release</td><td>Hardware</td><td>Firmware/Software</td></tr>
<tr><td rowspan="3">5.2.4</td><td>Dell PowerEdge 840 PC</td><td>Microsoft Windows Server 2003 Standard Edition Service Pack 2</td></tr>
<tr><td>Intel-Dialogic D/240JCT-T1</td><td rowspan="2">FW SR 6.1</td></tr>
<tr><td>Intel-Dialogic D4PCIUF 4 Port Analog Card</td></tr>
<tr><td colspan="5">LEGEND:
5ESS - Class 5 Electronic Switching System
CS - Communication Server
EWSD - Elektronisches Wählsystem Digital
FW - Firmware
PC - Personal Computer
SR - Software Release
SUT - System Under Test</td></tr>
</table>

10. TEST LIMITATIONS. None.

11. TEST RESULTS

a. Discussion. The UCR, appendix 7, paragraph A7.3, states that all Customer Premise Equipment (CPE) devices interfacing to the DSN shall provide at least one of the following interface types: 2-wire, 4-wire, Pulse Code Modulation (PCM)-24. The SUT supports 2-wire analog, and Digital Transmission Link Level 1 (T1) Integrated Services Digital Network (ISDN) Primary Rate Interface (PRI) National ISDN 2 (NI2), and T1 Channel Associated Signaling (CAS) with Dual Tone Multi-Frequency DTMF) interfaces. The SUT is an event notification device. Event notification tests were invoked from the SUT, and placed over each interface to intra-switch and inter-switch directory numbers over a simulated DSN network as shown in figures 2-2 and 2-3. Calls were successfully placed to subscribers on pre-defined notification lists and received a notification announcement. After hanging up, proper supervision was received by the SUT and the respective channels or lines were idled. In accordance with the UCR, the SUT interfaces are not required to support Multi-Level Precedence and Preemption. Therefore, the SUT is certified only for outgoing ROUTINE calls placed to the DSN. The following UCR requirements were met by the SUT:

(1) The UCR, appendix 7, paragraph A7.5, states that all DSN CPE, as a minimum, must meet the requirements of Part 15 and Part 68 of the Federal Communications Commission (FCC) Rules and Regulations, and the Administrative Council for Terminal Attachments (ACTA). The SUT met this requirement with their LoC.

(2) The UCR, appendix 7, paragraph A7.5, states that device(s) that can "out-dial" DTMF and/or Dial Pulse digits (automatic and/or manual) shall comply to the requirements as stated in UCR, sections 5.4.1 and 5.4.2, respectively, for its address digit generating capabilities and shall be capable of outpulsing DTMF digits specified in Telcordia Technologies GR-506-CORE, *"Signaling for Analog Interfaces,"* Issue 1 with Revision 1, June 1996." The SUT met this requirement with their LoC and testing. The SUT met this requirement with the 2-Wire analog and T1 CAS (DTMF only) interfaces.

(3) The UCR, appendix 7, paragraph A7.5.5, states that Automated Receiving Devices (ARDs) that interface with PCM-24 interfaces shall comply as specified in UCR, paragraph 7.1. The SUT met this requirement with their LoC and testing.

(4) The UCR, appendix 7, paragraph 7.5.1, states that CPE devices that support 2-Wire analog interfaces with loop signaling shall conform to the requirements of TIA/EIA-470-B, "Telecommunications - Telephone Terminal Equipment - Performance and Compatibility Requirements for Telephone Sets with Loop Signaling (ANSI/TIA/EIA-470-B-97)." The SUT met this requirement with their LoC and testing.

(5) Security is tested by DISA-led Information Assurance test teams and published in a separate report.

c. Test Summary. The SUT meets the interface and functional requirements for an ARD and is certified for joint use within the DSN with the following interfaces: 2-Wire Analog, T1 ISDN PRI NI2, and T1 CAS with DTMF signaling. JITC analysis determined a minor risk in certifying the SUT with all digital switching systems listed on the DSN APL certified with the same interfaces offered by the SUT.

12. TESTS AND ANALYSIS REPORT. No detailed test report was developed in accordance with the Program Manager's request. JITC distributes interoperability information via the JITC Electronic Report Distribution (ERD) system, which uses Unclassified-But-Sensitive Internet Protocol Router Network (NIPRNet) e-mail. More comprehensive interoperability status information is available via the JITC System Tracking Program (STP). The STP is accessible by .mil/gov users on the NIPRNet at https://stp.fhu.disa.mil. Test reports, lessons learned, and related testing documents and references are on the JITC Joint Interoperability Tool (JIT) at http://jit.fhu.disa.mil (NIPRNet), or http://199.208.204.125 (SIPRNet). Information related to DSN testing is on the Telecom Switched Services Interoperability (TSSI) website at http://jitc.fhu.disa.mil/tssi.